

**METHOD FOR FORMING A MR READER WITH REDUCED SHIELD
TOPOGRAPHY AND LOW PARASITIC RESISTANCE**

CROSS-REFERENCE TO RELATED APPLICATION(S)

5 This application claims the priority benefit of a provisional U.S.
patent application serial number 60/322,311 of Dimitar V. Dimitrov, Daniel P.
Burbank, Paul E. Anderson, Richard P. Larson, Kenneth P. Naughton, and Insik Jin,
filed on September 12, 2001 and entitled "SV Reader Design With Reduced Shield
Topography and Low Parasitic Resistance."

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BACKGROUND OF THE INVENTION

The present invention relates to manufacturing of magnetoresistive
spin valve (SV) devices. In particular, the present invention relates to a method of
fabricating abutted junction SV heads for longitudinal recording.

15 A magnetic read head retrieves magnetically-encoded information
that is stored on a magnetic medium or disc. The magnetic read head is typically
formed of several layers that include a top shield, a bottom shield, and a read sensor
positioned between the top and bottom shields. Also positioned between the top
and bottom shields, abutting opposite sides of the read sensor, are biasing layers and
20 current contacts. The read sensor is generally a type of magnetoresistive (MR)
sensor. The resistance of the MR sensor fluctuates in response to a magnetic field
emanating from a magnetic medium when the MR sensor is used in a magnetic read
head and positioned near the magnetic medium. By providing a sense current
through the MR sensor, the resistance of the MR sensor can be measured and used
25 by external circuitry to decipher the information stored on the magnetic medium.

The spin valve effect is one known way to utilize magnetoresistance.
Present abutted junction SV technology utilizes SV stacks with a thickness around
400 angstroms, while a combined thickness of surrounding biasing layers and
30 current contacts is close to 1000 angstroms. This 600 angstrom difference in